REMARKS

Claims 32, 36, 38, 40, 42, 48, 50, 51, 59, 61, and 63 have been amended. Claims 37 and 59 have been canceled. Claims 32, 36, 38-40, 42, 44-48, 50-51, 61, and 63 are now pending. Applicants reserve the right to pursue the original claims and other claims in this and other applications. Applicants respectfully request reconsideration of the above-referenced application in light of the amendments and following remarks.

Applicants acknowledge with appreciation that claim 60 is in condition for allowance. Independent claim 51 has been amended to recite similar allowable subject matter. Specifically, claim 51 now recites "a first dielectric layer . . . a first anti-reflective coating layer formed over the dielectric layer . . . a second anti-reflective coating layer formed over the first anti-reflective coating layer . . . and second a dielectric layer formed over said second anti-reflective coating laye." Applicants also respectfully submit that claims 32, 36-40, 42, 44-48, 50-51, 59, 61, and 63 should also be allowable for at least the foregoing reasons.

Claims 32, 36, and 38-39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent no.: 6,200,734 ("Blatchford") in view of U.S. patent no. 5,733,712 ("Tanaka"). The rejection is respectfully traversed.

The cited references do not disclose or suggest an integrated circuit comprising, *inter alia*, "a reflective layer having a reflective upper surface defining a first interface; a first anti-reflective coating layer formed over the reflective layer . . . and an upper surface defining a second interface; a second anti-reflective coating layer formed over said first anti-reflective coating layer . . . and an upper surface defining a third interface, wherein the first, second, and third interface reflects radiation . . . such that the amplitudes are approximately equal and the phase differences of the reflected radiation from said first, second, and third interfaces substantially mutually cancel

when combined, and a dielectric layer formed on said second anti-reflective coating layer," as recited in claim 32.

Blatchford does not disclose or suggest a structure with a reflective layer, a first anti-reflective layer, a second anti-reflective layer, and a dielectric layer that is formed on the second anti-reflective layer. Blatchford discloses a structure with a metal layer 18, an anti-reflective coating 17 consisting of three separate layers 13-15, an oxynitride layer 19, and a photoresist layer 16. Blatchford does not teach or suggest that oxynitride layer 19 is formed on the second anti-reflective coating 14. Oxynitride layer 19 is formed on the *third* anti-reflective coating layer 15. As such, Blatchford does not disclose or suggest "a dielectric layer formed on [a] second anti-reflective coating layer," as recited in claim 32.

Tanaka is relied upon for disclosing known antireflection methods which utilize light interference to prevent reflection and that the reflectivity of interfaces be equal and of opposite phase in order to cancel the reflected light from those interfaces. Tanaka, however, does not add anything to rectify the deficiencies associated with Blatchford. Claims 36 and 38-39 depend from claim 32 and should be allowable with claim 32 for at least the reasons provided above, and on their own merits.

Claims 40, 42, 44, 45, and 47-48 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Blatchford in view of Tanaka and U.S. Patent No. 6,255,151 ("Fukuda"). The rejection is respectfully traversed.

For similar reasons provided above, Blatchford and Tanaka do not teach or suggest a memory cell comprising "a structure on a substrate . . . [with] at least two active areas . . . a gate stack . . . a capacitor . . . a first anti-reflective coating layer . . . a second anti-reflective coating layer formed on at least a portion of the first anti-

reflective coating layer . . . and an insulating layer formed on the second anti-reflective coating layer," as recited in claim 40. Fukuda is relied upon for disclosing components conventional for a memory cell and adds nothing to rectify the deficiencies of Blatchford or Tanaka.

In FIG. 1, Blatchford discloses a structure with a metal layer 18, an anti-reflective coating 17 consisting of three separate layers 13-15, an oxynitride layer 19, and a photoresist layer 16. Blatchford discloses that oxynitride layer 19 is formed on the *third* anti-reflective coating layer 15, not the second anti-reflectice coating layer 14. As such, the cited references do not teach or suggest a structure with a first anti-reflective coating layer, a second anti-reflective coating layer, and an insulating layer formed on the second anti-reflective coating layer.

Moreover, Applicants respectfully submit that there is no motivation to combination Blatchford, Tanaka, and Fukuda to arrive at the claimed invention. To establish a *prima facie* case of obviousness, a determination of obviousness "must involve more than indiscriminately combining prior art; a motivation or suggestion to combine must exist." *Pro-Mold & Tool Co.*, 75 F.3d at 1573.

In this case, there is no teaching, suggestion, or motivation to combine the cited references. For example, Blatchford is directed to the formation of an anti-reflection coating between a non-planar substrate and a photoresist layer "to alleviate the problems caused by non-uniform reflection at the substrate surface during exposure of the photoresist layer." (Abstract). Tanaka is directed to forming a highly-precise resist pattern (Abstract). Fukuda, in contrast, relates to the creation of an offset between a cell array and a peripheral circuit region of a memory cell (Col. 1, line 66 through Col. 2, line 2). The only element in which Blatchford, Tanaka, and Fukuda share is the substrate on which their respective structures are formed. A person of

ordinary skill in the art would not have been motivated to combine the cited references since the references are directed to solving entirely different problems.

"A statement that modifications of the prior art to meet the claimed invention would have been 'well within the ordinary skill of the art' at the time the claimed invention was made because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references." M.P.E.P. § 2143.02. There is no objective reasoning to combine the cited references. It is impermissible hindsight reconstruction to combine the references.

Accordingly, there is no motivation or suggestion to combine a reference directed to providing an insulating film within a peripheral region and having a thickness equal to the height of a capacitor, *i.e.*, Fukuda, with references directed anti-reflection layers, *i.e.*, Blatchford and Tanaka.

Claims 42, 44-45, and 47-48 depend from claim 40 and should be allowable along with claim 40 for at least the reasons provided above, and on their own merits.

Claim 46 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Blatchford in view of Tanaka and Fukuda, and further in view of U.S. patent no. 6,140,179 ("Chen"). The rejection is respectfully traversed.

Claim 46 depends from claim 40 and should be allowable along with claim 40 for at least the reasons provided above, and on its own merits. Specifically, there is no motivation to combine the cited references and even if they are properly combinable, which they are not, they still would not teach or suggest a structure with a first anti-reflective coating layer, a second anti-reflective coating layer formed on the first anti-reflective coating layer, and an insulating layer formed on the second anti-reflective

coating layer. Chen is relied upon for disclosing crown (container) capacitors and adds nothing to rectify the structural deficiencies of Blatchford, Tanaka, and Fukuda.

Claim 50 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Blatchford in view of Tanaka, Fukuda, and U.S. patent no. 6,287,959 ("Lyons"). The rejection is respectfully traversed.

For similar reasons provided above, Blatchford, Tanaka, and Fukuda do not teach or suggest the subject matter recited in claim 50 since the cited references are not properly combinable. Moreover, even if the references are properly combinable, which they are not, they still fail to disclose or suggest a memory cell comprising, *inter alia,* "an etch stop layer comprising: a first anti-reflective coating layer formed over [a] structure; a second anti-reflective layer formed over at least a portion of the first anti-reflective coating layer; and an insulating layer formed on the etch stop layer," as recited in claim 50. Lyons is relied upon for disclosing that silicon oxynitride can be used as a successful antireflective layer and etch stop, and adds nothing to rectify the structural deficiencies of Blatchford, Tanaka, and Fukuda.

There is no motivation to combine Blatchford, Tanaka, and Fukuda since the references are directed to solving entirely different problems. Moreover, Blatchford discloses that oxynitride layer 19 is formed on the third anti-reflective coating layer 15. As such, the cited references do not teach or suggest a structure with an etch stop layer comprising a first anti-reflective coating layer, a second anti-reflective coating layer, and an insulating layer formed on the second anti-reflective coating layer.

Claim 51 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Blatchford in view of Tanaka, Fukuda and U.S. patent no. 5,724,299 ("Podlesny"). The rejection is respectfully traversed.

For similar reasons provided above, the cited references do not teach or suggest a computer system comprising, *inter alia*, "a processor; and a memory, the memory comprising at least one memory cell, the memory cell comprising: a structure . . . at least two active areas . . . a gate stack . . . a capacitor . . . a first dielectric layer . . . a first anti-reflective coating layer formed over the dielectric layer . . . a second anti-reflective coating layer formed over the first anti-reflective coating layer . . . and second a dielectric layer formed over said second anti-reflective coating layer," as recited in claim 51. Podlesny is relied upon for disclosing a memory cell array typically used as memory for a computer system, and adds nothing to rectify the structural deficiencies associated with Blatchford, Tanaka and Fukuda.

There is no motivation to combine Blatchford, Tanaka, and Fukuda since the references are directed to solving entirely different problems. Further, Blatchford does not disclose a first dielectric layer formed underneath the first anti-reflective layer 13, much less a second dielectric layer formed on the second anti-reflective layer 14. Blatchford's oxynitride layer 19 is formed on the third anti-reflective coating layer 15 and not the second anti-reflective coating layer 14. As such, the cited references do not teach or suggest a structure with a first dielectric layer, first anti-reflective coating layer, a second anti-reflective coating layer, and a second dielectric layer formed over the second anti-reflective coating layer.

Moreover, Applicants also respectfully submit that one of ordinary skill in the art would not have been motivated to combine the cited references with Podlesny to arrive at the subject matter of claim 51. For example, Blatchford addresses "problems caused by non-uniform reflection at the substrate surface during exposure of the photoresist layer" (abstract); whereas Fukuda addresses the creation of an offset between the cell array and the peripheral circuit region of a memory cell, while Podlesny addresses the formation of a cross-coupled sense amplifier as a storage

element. The only element which all the references have in common is the substrate on which their respective structures are formed.

Claims 61 and 63 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Blatchford in view of Tanaka and Lyons. The rejection is respectfully traversed.

As indicated above, Blatchford, Tanaka, and Lyons do not teach or suggest an integrated circuit comprising "a reflective layer . . . a dielectric layer formed over said reflective layer; and an etch-stop layer comprising: a first anti-reflective coating layer formed on the dielectric layer; and a second anti-reflective coating layer," as recited in claim 61.

In FIG. 1, Blatchford discloses a structure with a metal layer 18, an anti-reflective coating 17 consisting of three separate layers 13-15, an oxynitride layer 19, and a photoresist layer 16. The first anti-reflective coating layer 13 is formed on metal layer 18 and *not* a dielectric layer. As such, the cited references do not teach or suggest a structure with a reflective layer, a dielectric layer formed over the reflective layer, and an etch-stop layer formed on the dielectric layer comprising a first anti-reflective coating layer, and a second anti-reflective coating layer. As discussed above, Tanaka and Lyons do not add anything to rectify the structural deficiencies associated with Blatchford.

Similarly, the cited references do not disclose or suggest an integrated circuit comprising "a reflective layer . . . a first dielectric layer formed over the reflective layer; a first anti-reflective coating layer; a second dielectric layer formed over the first anti-reflective coating layer; and a second anti-reflective coating layer formed over the second dielectric layer," as recited in claim 63. Blatchford's anti-reflective coating 17

consists of three different layers (13-15). The first anti-reflective coating layer 13 is formed on metal layer 18 and *not* a first dielectric layer. The second anti-reflective layer 14 is formed on the first anti-reflective layer 13 and *not* a second dielectric layer. As such, the cited references do not teach or suggest a structure with a reflective layer, a first dielectric layer, a first anti-reflective coating layer, a second dielectric layer, and a second anti-reflective coating layer. As discussed above, Tanaka and Lyons do not add anything to rectify the structural deficiencies associated with Blatchford.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to review and pass this application to issue.

Dated: May 22, 2005

Respectfully submitted,

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